Research Results: Headline® Fungicide on Alfalfa for Disease Management and Plant Health

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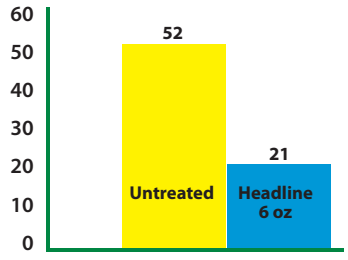
In July of 2010, **Headline** fungicide, the most recognizable fungicide brand on the market, was approved for use in forage alfalfa production systems. Alfalfa growers in the Midwest now have a tool at hand for disease management and plant health. Leaf diseases are a widespread issue in all alfalfa growing regions of the U.S and have been known to cause significant losses in yield and forage quality. Severe disease outbreaks in alfalfa can be very damaging to yields and quality because of leaf drop, reduced palatability, and reduced nutritional value due to loss of protein. Prior to **Headline** registration for alfalfa one of the only disease control methods at the hands of growers was early cutting in an effort to minimize leaf drop and quality loss. **Headline** is proving to be a very useful tool in fighting foliar diseases and is labeled to control a large number of important alfalfa diseases including, Anthracnose, Common leaf spot, Spring black stem, Summer black stem, downy mildew, powdery mildew, *Rhizoctonia* spp., and several other foliar diseases.

2011 field research conducted in the Midwest provided important insight into the benefits of using **Headline** on alfalfa for disease management and plant health. The outcome of this research demonstrated the use of **Headline** in alfalfa stands results in outstanding leaf and stem disease control, reduced disease inoculum for successive cuttings, increased leaf retention, quicker green-up after harvest, and increased forage quality and yield potential.

A replicated trial conducted by the University of Minnesota in Waseca demonstrated a 30% reduction of foliar disease when **Headline** was applied at 6 fl oz/ac (Figure 1). In this same trial the yield results of each of 3 cuttings showed a + 0.4, + 0.3, and + 0.2 ton/ac increase with **Headline** application prior to cuttings 1, 2, and 3, respectively. The total yield of all 3 cuttings for the **Headline** treated alfalfa was 6.1 tons/ac while the untreated check yielded 5.2 tons/ac. Forage quality analysis was also conducted on samples taken from these research plots. There was an increase of 2% and 3% in the Relative Feed Values (RFV) and Relative Feed Quality (RFQ), respectively. The slight increase in forage quality may not seem significant, but when combined with the yield increases seen with **Headline** applications the impact could be substantial.

Figure 1. Alfalfa Disease Control - % Leaf Spot



2011 replicated trial. University of Minnesota, Waseca, MN. Average disease ratings for cuttings 1, 2 and 3.

In order to increase the knowledge base on the efficacy and benefits of **Headline** use on alfalfa large scale, on-farm demos were also conducted in 2011.

In conjunction with local growers, BASF conducted multiple demos located in Minnesota, Iowa, Wisconsin, and Colorado. The results support the suggestion that the application of **Headline** can significantly increase yield potential. In an average of 71 separate cuttings where yield was taken there was a 13% increase in yield from the **Headline** treated alfalfa compared to the untreated crop. RFV calculations from 105 alfalfa cuttings produced a 4% increase of **Headline** treated alfalfa over untreated. Along with increased yield potential and quality, there was also visual evidence of plant health responses. Alfalfa stands treated with **Headline** clearly showed increased leaf retention later in the cutting intervals as compared to the untreated. There was also visual evidence of quicker green-up after cutting in the **Headline** treated plots (Figure 2). There were many positive findings in the 2011 research and this effort will be continued in the 2012 season.

Based on the research conducted by Universities, growers, and BASF, alfalfa producers have an exciting opportunity with **Headline**. For those who are interested in controlling leaf and stem diseases and increasing the overall health of their alfalfa stands, the results could be significant. Current research suggests **Headline** promotes increased yield potential as well as increased forage quality, which translates into maximized profitability of alfalfa production systems.

The best application recommendations for **Headline** on alfalfa for the 2012 growing season are:

- For optimal single application, apply **Headline** at 6-9 fl oz/ac to 6-8" tall alfalfa prior to the first cutting.
- For maximum yield protection apply **Headline** to 6-8" tall alfalfa for highest yielding cuttings, typically first and second cuttings.
- Pre Harvest Interval – 14 days.
- Use 15-20 GPA by ground or 5 GPA or more by air for proper coverage.
- **Headline** may be tank mixed with other labeled herbicides or insecticides.

Figure 2. Increased leaf and stem retention with Headline which leads to quicker green-up after cutting.

2011 On-Farm trial: Markesan, WI. Increased leaf retention and quicker green-up with Headline. Photos taken 1 day after cutting and 1 hour after harvest.